

p-Ethyltoluene - Comments of Environmental Defense

(Submitted via Internet 10/23/02)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for p-Ethyltoluene.

The test plan and robust summaries for p-ethyltoluene (PET) were submitted by Deltech Corporation. They were poorly organized and written, which made them unnecessarily difficult and time consuming to review.

We disagree with the proposal to use p-methylstyrene (PMST) as a structural analog for PET for the purpose of fulfilling data needs for reproductive toxicology. The justification that is presented in the test plan is inadequate. It seems to be based entirely on the findings that PET and PMST have similar NOELS in cases where studies on common endpoints have been conducted. This is hardly adequate to justify either category formation or use of a surrogate chemical. Little or no information was given on mechanism of action or mechanism of site-specific injury. Moreover, the ethylene structure on PMST would cause it to have a different metabolism and most likely a different toxicological profile than PET. For example, a major metabolite of PMST is a styrene oxide metabolite that would not be formed by PET. As part of the justification for using PMST as a surrogate, the sponsor claims that PMST, styrene, and vinyl toluene have similar metabolic routes. This point is irrelevant for using PMST as a surrogate for PET. The sponsor states that there is no indication that metabolism of PET is different than these three chemicals. No data was provided to support this statement and we doubt its correctness.

For these reasons, we recommend that the sponsor conduct a reproductive toxicity study on PET. This recommendation is strengthened by the finding that PET is strongly positive at low doses in an in vivo assay for unscheduled DNA synthesis in rat hepatocytes, indicating the potential for PET to exert biological activity in other cells or tissues.

The sponsors indicate in the test plan that little data is available for ecological endpoints or measures of environmental fate or distribution. We agree with the sponsors' recommendation to fill these knowledge gaps with additional studies.

Thank you for this opportunity to comment.

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